

- sprejem s končnim stanjem tip \*
- sprejem z izpraznitvijo sklada tip \*\*

$\delta: Q \times (\Sigma \cup \{\epsilon\}) \times \Gamma \rightarrow 2^{Q \times \Gamma^*}$

ker je tak avtomat nedeterminističen

trenutni opis: (stanje  $\in Q$ , preostanek vhoda, vsebina sklada)

začetni trenutni opis:  $(q_0, w, z) \xrightarrow[\text{končaj}]{\text{tačno mnogo korakov}} (q_F, \epsilon, j \in \Gamma^*)$

beseda sprejeta (tip \*)

tip \*\*:  $(q_0, w, z) \xrightarrow[\text{končaj}]{\text{tačno mnogo korakov}} (q, \epsilon, \epsilon); q \in Q \Rightarrow \text{sprejeta}$

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$(\{q_0, q_1, q_F\}, \{a, b\}, \{z, s\}, \delta, q_0, z, \{q_F\})$

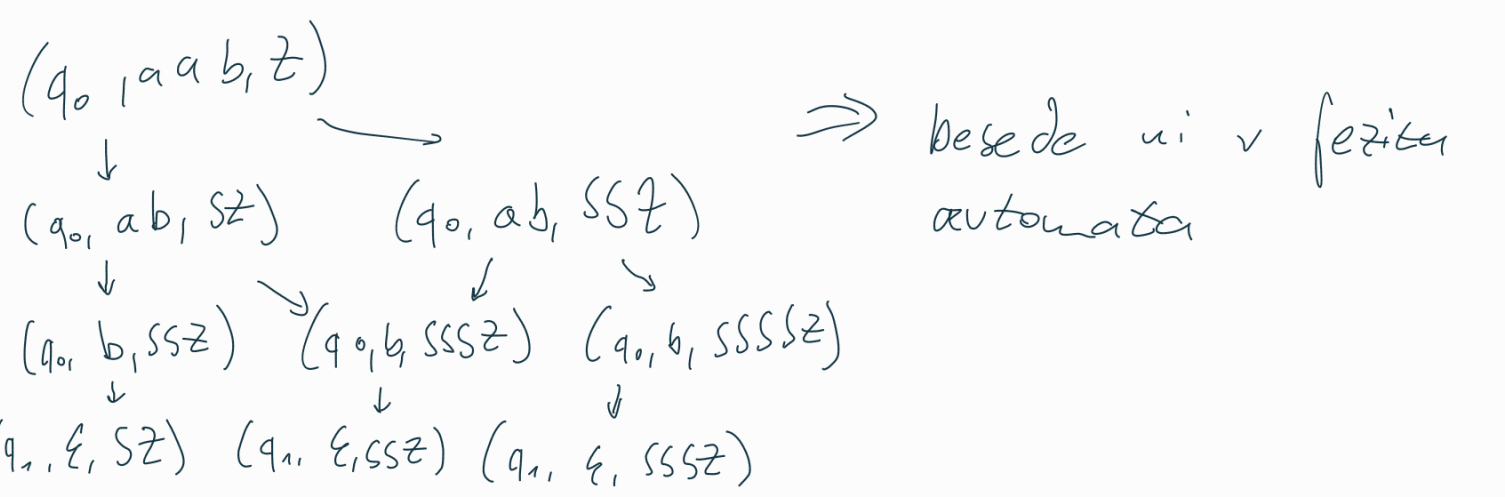
$\delta(q_0, a, z) = \{(q_0, sz), (q_0, ssz)\}$

$\delta(q_0, a, s) = \{(q_0, ss), (q_0, sss)\}$

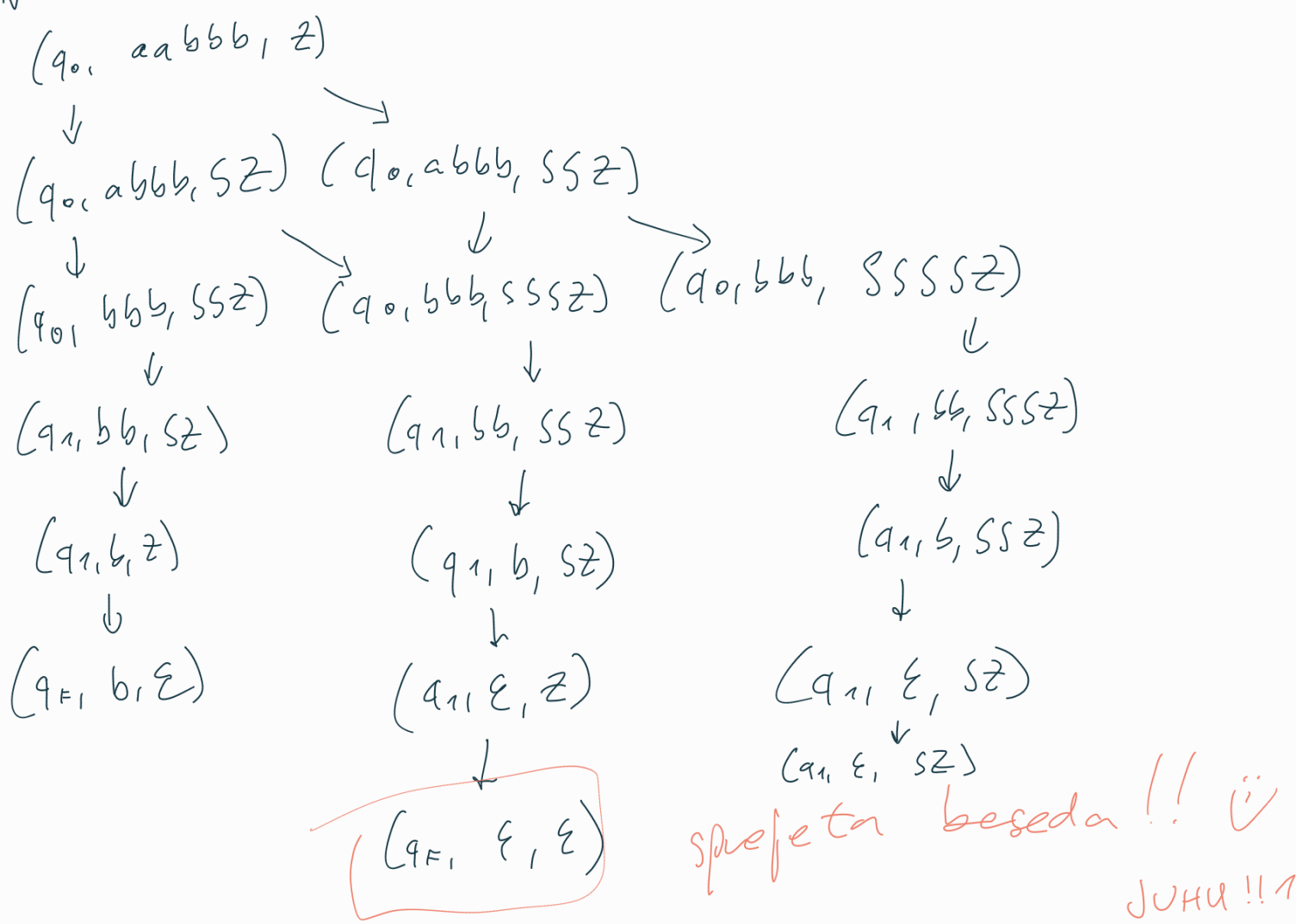
$\delta(q_0, b, s) = \{(q_1, \epsilon)\}$

$\delta(q_1, b, s) = \{(q_1, \epsilon)\}$

$\delta(q_1, \epsilon, z) = \{(q_F, \epsilon)\}$



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jezik, ki ga avtomat sprejema:

$$L(A) = \{ a^m b^n \mid 1 \leq m \leq n \leq 2m \}$$

	$q_0$				$q_1$			$q_f$
	a	a	a	b	b	b	b	z
z	s	s	s	s	s	s	s	z
	s	s	s	s	s	z		
	z	s	s	s	z			
		z	s	z				
			z					

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$$L = \{ a^n b^n \mid n \geq 0 \}$$

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Deterministični skladovni avtomat -- DSA

za vsako trojico mora biti specifičan najmanj en prehod

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$$L = \{ a^i b^j c^k \mid j = i + k \text{ i } i, k \geq 0 \}$$

$a^3 b^7 c^4$ ;  $b^7 c^7$ ;  $a^4 b^4$ ;  $\epsilon$

$q_0$	a	a	a	b	b	b	b	b	b	c	c	c	c	$q_F$
$\epsilon$	S	S	S	S	S	$\epsilon$	$\epsilon$	T	T	T	T	T	T	$\epsilon$
	$\epsilon$	S	S	S	$\epsilon$			$\epsilon$	T	T	T	$\epsilon$		
		$\epsilon$	S	$\epsilon$				$\epsilon$	T	$\epsilon$				
			$\epsilon$	$\epsilon$					$\epsilon$					

$$\delta^*(q_0, c, \epsilon) =$$

$$\delta^*(q_0, b, \epsilon) =$$

...

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$$S \rightarrow aSa \mid A$$

$$A \rightarrow bAB \mid \epsilon$$

$$B \rightarrow c \mid d$$

$$Q = \{q\}$$

→ sprejem z izpraznitvijo sklada

$$\Gamma = \{S, A, B, a, b, c, d\}$$

$$\epsilon \rightarrow S \quad \Sigma = \{a, b, c, d\}$$

$$\delta^*(q, a, a) = \{q, \epsilon\}$$

$$\delta^*(q, b, b) = \{q, \epsilon\}$$

$$\delta^*(q, c, c) = \{q, \epsilon\}$$

$$\delta^*(q, d, d) = \{q, \epsilon\}$$

$$\delta^*(q, \epsilon, S) = \{q, aSa, (q, A)\}$$

$$\delta^*(q, \epsilon, A) = \{q, bAB, (q, \epsilon)\}$$

$$\delta^*(q, \epsilon, B) = \{(q, c), (q, d)\}$$

$$w = a b c a$$

$(q_1, abcac, S)$

↓

$(q_1, abcac, aSa)$

↓

$(q_1, bcac, Sa)$

↓

$(q_1, bcac, Aa)$

↓

$(q_1, bcac, bABa)$

↓

$(q_1, cac, ABa)$

↓

$(q_1, cac, Ba)$

↓

$(q_1, cac, ca)$

↓

$(q_1, ac, ca)$

↓

$(q_1, \epsilon, \epsilon)$

accept!